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At 9:30 the sun was shining on the nest when the female came to feed, and we could see long necks, dark fuzzy heads and broad yellow bills. After feeding the mother slipped onto the nest, resting lightly above two of the birds, the third one showing on our side. Presently the mother raised higher up and partly spread her wings. For three minutes she thus shielded the nestlings, when the male came to feed and she flew away. The male did not stay this time, but a few minutes later when he came to feed, he rested on the edge of the nest and finally slipped onto it, where he stayed ten and one-half minutes. In my mind there is little doubt but that the male helps brood the eggs, for never have I seen a bird that did not share the brooding take the nest as this one did.

The common call of this pair of birds, one that I heard on the upward trip and all about our camp, was a "pe-wit" or "seé-rip". This was given by the female quite frequently before and after feeding. The male used it in the same way but not so frequently. Only once did I hear any other note and then it was only a little varied.

The food brought seemed to be large winged insects to a great extent. Sometimes they were so large as to make several feedings. The female often foraged quite near the nest in a damp place under the bank. Both birds sat about on limbs not far from us and seemed not to mind our presence.

I made only one other trip to the nest and then I took my camera. The nest was so far away and the light so uncertain that not very satisfactory results were obtained. However, the camera shows the location of the nest. For the rest one must use the imagination.

MY AVIAN VISITORS: NOTES FROM SOUTH DAKOTA

By H. TULLSEN

The bird's point of view differs scarcely at all from our own in the essentials of life: Protection from enemies, the preservation of the family, a sheltered home, congenial environment, abundant food, and pure water—these natural rights, the birds, like man, are ever seeking.—NELTJE BLANCHAN.

THE conditions of existence to which animals are normally exposed are not so tranquil and unexacting that such creatures are rendered unwilling to take occasional advantage of opportunities to try other and different environments. This we sometimes see illustrated in the fact that birds, in order to obtain food in greater abundance, shelter from cold, or security against the attacks of their natural foes, at times will temporarily or permanently forsake their wild haunts and seek the environs of the habitations of men. Of course it is to be admitted that our feathered friends frequently visit our dooryards and gardens for mere variety's sake, or in obedience to the promptings of curiosity, or, perchance, owing to a spirit of daring; but the fact remains that necessity and want, or at least a hope of *sooner* finding the means of appeasing hunger than under ordinary circumstances, are oftener the agents that move such callers to come.

In southwestern South Dakota, on the Pine Ridge Indian reservation, I had ample opportunity to observe the behavior of farmyard and dooryard bird-visitors of both the main categories named above, viz., seekers of food and shelter, on the

one hand, and idle loafers or sight-seers, on the other. In the winter of 1902-1903, and that of 1903-1904, I kept a stack of prairie-hay, another of oat-fodder, and a third of squawcorn stalks with the ears left on. These stacks proved a great attraction to the birds. They stood a little distance from the dwelling house, on the bleak plain, and high above the flood-plain of Medicine Root Creek, which lies two-score rods to the west. To the east are the treeless higher hills, and to the south and southeast rise other hills upon which grow groups of pines (*Pinus ponderosa scopulorum*). The creek-plain, which lies far below the general surface of the adjacent country, is densely covered with a growth of deciduous trees and shrubs.

At all times to the dooryard came the Magpies (*Pica pica hudsonia*). Mischievous and thievish though they are, I know of no other birds among all my acquaintances more attractive and charming than they. Whilst watching their antics and hearkening to their friendly, conversational chattering, one can almost forget that at some time or other the very birds that he is observing may have killed and eaten by inches the saddle-galled pony of a Siouan "brave." Each winter, among the sixteen or twenty Pies that made daily visits to search for edible matter among such refuse as had been thrown out, came one or more that had parted with their tail-feathers. These appendages, the Indians informed me, had been left in some steel trap set for small four-footed game. The tailless individuals, however, as it seemed to me, were about as well off as were those that still were "whole"; for when the latter leave the sheltered groves that border the water-courses, and ascend to the higher ground, I have noticed that they are considerably inconvenienced, in the high winds, by having such large caudal appendages. In the mornings, when one is trying to muster self-command enough to persuade himself to rise, outside the window can be heard the chattering and scolding of a dozen or more of these birds. Only at the time of courtship and nest-building are their visits to the doorstep comparatively rare. Curiosity certainly is an element in their mental make-up. On one occasion I saw sixteen of them gathered round a domestic cat, all sitting very still, intently watching the feline, and jumping quickly and nimbly back at his slightest movement. Nevertheless, as a rule, they seemed to have little, if any, fear of this cat. He and they were often to be seen together culling edibles from a box of garbage.

At another time, however, and in another place, the cat in the case did not fare so well. One morning at Grass Creek, South Dakota, I was awakened by the excited shrieking and chattering of Magpies. On going to the window I saw an old house cat in a couchant attitude, about two rods from the door of the cottage. His tail was coiled closely about his feet—for safe keeping, as developments presently showed; and he appeared ill at ease as he watched a pair of Pies that were hopping about him, their dark eyes glistening with deviltry. At length the cat rose and started to walk toward the doorstep. Immediately, first one bird and then the other hopped quickly forward and nipped the end of Tom's tail with its bill. All that the cat did to show his resentment was to turn half round with a protesting "meow!", after which he squatted down again. When he arose once more the whole performance was repeated, and it was only when the feline reached the stoop that he was suffered to rest in peace. It is said that jack rabbits are sometimes harrassed by these avian mischief-makers in like manner.

Often one (and, I think, always the same) individual of the flock of Magpies at Medicine Root Valley would reply to a teasing chatter uttered by a person in the house, and whilst so doing would approach very near to the door or window whence came the challenge. Magpies when tamed may be taught to articulate a

few words. A gentleman who has spent much time among the Indians informs me that on one occasion when he was passing a modern Siouan home a Magpie on the haystack distinctly uttered the words "How, kola!"—which, being interpreted, is "Howdy-do, friend!" I myself have heard a tame crow "talk Indian."

A young Magpie that I took from a nest in this vicinity and brought to Illinois, became very much of a pet. It was allowed the freedom of the town, and took a legitimate advantage of its liberty, always coming home to roost and feed. This bird suffered an untimely death by drowning in a barrel of water, and his taking-off was the cause of much lamentation in the household to which he had been attached for nearly a year.

Magpies soon learn to distinguish the sound uttered by a person when calling the chickens to be fed, and are apt to appear suddenly and unbidden to partake of the meal. More than this, they are known to have a liking for the flesh of the very young chicks themselves, and it is therefore unsafe to allow a hen with a brood less than fifteen days old to range far where there are Magpies in the neighborhood.

When the breeding season commences the Pies keep close in the thick tree-growth along the creek where they build their massive nests; and now they come to us in pairs occasionally instead of in a flock as at all other periods. At this season they utter a note not heard at other times,—a soft, tender call, hard to describe or imitate. It has often been said that their nests are "as large as bushel-baskets," but structures much larger than this are common. Where I observed them, nests with eggs were most numerous in the month of May. Two nests which I examined in 1903 were about ten feet from the ground. On May 7, 1904, I found a nest saddled upon buffalo-berry saplings, and so low that I had to look down instead of to climb up, in order to peer into it. On the date mentioned it contained two eggs, and an additional one was laid each day thereafter until the clutch, numbering seven eggs, was complete. A short time afterward this nest was robbed by Indians. Among these people, by the way, sympathy for animals is an unknown virtue, as to some extent is the case among small boys, who, like savages, sometimes lack certain of the nobler instincts, and, as one consequence, are often responsible for much suffering among animals.

Nearly every bird has its own manner of flight, and although it be far off where color and form alike are indistinguishable, yet the student of ornithology ascertains from its way of progression through the air to what species a given bird may belong. The peculiar wavy flight of that small bird tells him of a goldfinch; the similar, but heavier, flight of the woodpecker is known to him; like an arrow the Mourning Dove shoots by, while perchance the whistling of its wings may be heard; sailing with the clouds, high overhead, are the nighthawks and swallows; and in the near horizon that lazily flying creature with the tail of a comet is a Magpie. Sometimes I have conjectured that that strange bird the Archæopteryx, bore a similar general appearance as he flew through the pleasant air in that far-off Jurassic day.

To my fodder-stacks, in early spring, came the Western Meadowlark (*Sturnella neglecta*). This is a bird of marked individuality; it differs from the Eastern Meadowlark in appearance, and its highly variable melody is quite unlike the song of its congener. On two occasions when passing through the sand-hills, a few miles to the south, while the songs of meadowlarks filled the air, I could easily distinguish the notes of the eastern birds, one or two of which I now had the pleasure of seeing for the first time in that country among the multitudes of the

other species. Afterwards, however, along Lake Creek, about forty miles to the southeast of my station, in a marshy valley about three miles wide, I found that the Eastern Meadowlarks were very abundant. In this valley the western birds were very few, but on entering the low sand-hills that bordered the valley on the south, or the somewhat higher limestone hills that lay to the north, we came into a region where this species alone was to be seen and heard; positively never a feather of the eastern bird was ever met with out of the valley.

Persons having no special ornithological bent, but with a desire to know something of wild life in general, on coming to South Dakota from the east, have asked me with reference to the western lark, "What is this bird hereabouts that looks like our Eastern Meadowlark?" This inquiry indicates that the differences between the two birds are sufficiently great to enable those that make no pretense whatever of being versed in bird-lore to perceive readily that marked dissimilarities exist. And to the great majority, the bird of the east and the bird of the west will always be two entirely different birds, notwithstanding the fact that the American Ornithologists' Union used to consider *neglecta* to be a mere subspecies, or varietal form, of *magna*.

In the year 1902 my date for the arrival of the western meadowlark was March 22. The next day the weather turned cold and blustery, and so it continued for several days; but the birds became immediately common. In 1903, when the spring was wintry and uninviting, I saw the first individual of this species on March 26. The Indians, however, reported having seen some of these birds on the preceding day, near the head of Medicine Root Creek, a few miles to the southward. By March 28 they were present in full force.

The spring of 1904 was warm and dry, and on March 3 I saw a lone meadowlark near my stacks. But again the irrepressible red men put forward claims of priority; they insisted that they had seen their birds some few days before. On March 5 I saw several individuals, but the species did not become abundant until about two weeks had elapsed.

It was remarked that their song is highly variable, and indeed I am almost inclined to state that no two individuals sing exactly alike. This is an illustration of the truth pointed out by Darwin that "secondary sexual characters are eminently liable to vary, both with animals in a state of nature, and under domestication." Such "contingencies are highly favorable to sexual selection." And likewise, without doubt, this extreme variability of the melody is one circumstance that contributes toward rendering it so very pleasing to our ears, for the meadowlark is one of the most admired of Dakota songsters. He runs in the yard with the hens, and ever and anon he perches upon a fence-post or shed to pour forth his melody, which no more admits of satisfactory description than does any other bird-lay. That courtship song, less often heard, which is caroled forth by the male whilst on the wing, is one of the most beautiful sounds in all nature.

The Oglala Sioux imagine that the Western Meadowlark talks to them in their own language. Rendered into English, some of the phrases which the ordinary song is fancied to resemble are, "My friend, I like the calf," "Sister-in-law, comb my hair," and "The lightening will kill you."

The last stragglers of the migrating hosts of meadowlarks seen in the autumn of 1901, were two birds noted on October 17. In 1903, September 12 brought snow, and following came about a week of wintry weather; thereafter the autumn was pleasant enough. My last date that year for the meadowlark was October 23, when a single bird was recorded.

TO THE MEADOWLARK

O, blithesome bird,
Thy voice is heard
While yet the Frost-king rules the land,
And e'en when flowers,
'Mid fragrant showers,
Are waked to life by Springtime's wand.

And yet so sweet,
Thy song is meet
To thrill the pulses of the gods,
When on a gay
Autumnal day
Thou singest 'mid the golden-rods.

That sound so clear
From far and near—
That sound so common, yet so rare—
That joyous flood,
Euterpe's blood—
Pours out to drown the fiends of care.

For ages long
That selfsame song
Unchanged has welcomed each new day;
Would Faith and Love,
All else above,
Were changeless as thy wondrous lay!

That beautiful relative of the meadowlark, the Red-winged Blackbird (*Agelaius phoeniceus*), was not a common visitor to the barnyard at Medicine Root. He belongs to the low-lying meadows and the marshes, and in order to ascertain with any accuracy his times of arrival and departure, we must be on hand at such places in spring and autumn. On March 11, 1904, however, I saw a Red-wing at my haystack. On April 20 of the same year a male Yellow-head (*Xanthocephalus xanthocephalus*) also paid me a visit. Either of these two birds is not common thereabouts. But along the sluggish streams and among the swampy meadows that abound in many regions of that country, both the Red-wings and the Yellow-heads are very abundant. At Grass Creek, about forty miles westward, I found the Red-wings in large numbers nesting in the wolfberry thickets throughout the month of June.

Among the afore-mentioned pines dwell the Pinyon Jays, or Blue Crows (*Cyanocephalus cyanocephalus*). "Pinebird" is the vernacular name, and not a bad one, either. These, as a rule, are birds of the wilds, which at most seasons fly about in sizable flocks, uttering weird cries, half caw, half mew. Once in a while a flock will alight near an Indian tepee, investigate for a moment, then fly away. They are fond of hovering along the high bluffs that border the creeks, and peering into the cracks and crevices thereof. While thus employed, I presume that they are in search of insects and their larvæ. At No Flesh Creek, not far from my station, I on one occasion saw a Clarke Crow (*Nucifraga columbiana*) in company with a troop of them while thus engaged. I heard his squawk, or chatter, above the screams of the jays, and was thus led to discover him. This

was the only representative of the species that I ever saw thereabouts. In autumn the Pinyon Jays were most attentive to a small field of squaw corn near the brook, and at the base of a pine-clad bluff that was a favorite resort of these birds. They attacked the grain while the stalks were standing, as well as when in the shock; and in this work they were ably assisted by Blue Jays and Red-headed Woodpeckers.

As was implied, Pinyon Jays are not generally to be classed as loafers about outbuildings, haystacks, and barnyards. But in February of the year 1904, one lone individual stayed about my buildings for several days to hunt for grains of corn and oats. Sometimes the kernels of corn were swallowed entire, and at other times he fixed them in crevices of posts and rails, and cracked them with blows from his beak, in the manner in which his cousin, the Blue Jay, opens the hazelnuts stolen by him from some shed-roof where they have been put to dry. I was able to approach within two or three yards of this bird, whose kind are always so shy—so near, in fact, that I could easily distinguish the whitish feathers of his throat. His first appearance occurred immediately following a light fall of snow; when this had melted away he disappeared for a few days. On the morning of February 24, however, a light mantle of snow again covered the surface of the earth, and my acquaintance came flying from the pines, and alighted on a post near me. Soon I saw him working away at an ear of corn, and swallowing the unbroken kernels as they were detached. Each time did he come alone—never brought a friend to partake of the abundance of his fare. Perhaps he thought it not worth while to do so, for he soon tired of his semi-domestication, and came no more.

It seems meet that these birds should dwell in a region so suggestive of ancient days. Dimly in the northwest appear the Black Hills, which were upheaved in a nameless day between Cretaceous and Miocene time. The Bad Lands, turreted and sculptured by the tireless forces of Nature through a lavish waste of years, and yielding the remains of strange creatures that lived and loved long æons since—these lie to the northward. On the ancient buttes and bluffs, the relics and ruins of Miocene deposits, flourish the pines, which belong to a group of seed-bearing plants the heyday of whose existence was in the Triassic age, at least fourteen million years ago. And among these trees rove the Pinebirds, themselves illustrative of things that are past. For they are a link between the crows and the true jays—a combination of both—and resemble some ancient bird that was the common ancestor of the two subfamilies.

In the region of the Great Plains the Robins (*Planesticus migratorius*) are not always the familiar dooryard birds with which we are so well acquainted in the east, and elsewhere. If, in the locality of which I write, your house is situated near the creek, then assuredly you will have these birds always with you at the proper times. But, living on a treeless hill, about all that you will hear of them comes wafted from the groves below, or their soft screech may be heard as they pass overhead. Occasionally, one or two will visit your barnyard or lawn in quest of something new in the way of diet. While the majority of them migrate, a few Robins remain in this region throughout open winters.

Tree Sparrows (*Spizella monticola*) were familiar visitants to my barnyard in winter and spring. They spent much time near the forage-stores, where now and then a Snowbird (*Junco hiemalis*, etc.) was to be seen among them. These latter are more shy than the sparrows. On the flat, weed-covered valley of Lake Creek, Tree Sparrows were more abundant than here, while the Juncos were less so. In the spring of 1908, at Lake Creek, among the hordes of sparrows, I saw a solitary

Snowbird which remained with them in the vicinity of the dooryard for about two weeks before he disappeared.

There is something strange and interesting in this fact of the associating in flocks of different species of more or less closely-related birds. What do the two or more kinds think of one another? Ofttimes I watched this particular Snowbird as he hopped about among the sparrows in search of food. To all appearances he was treated as one that had been "adopted into the tribe."

Western Lark Sparrows (*Chondestes grammacus strigatus*) in 1904, first made their appearance on April 30, and became common at once. During many hours each day they were much in evidence about the dooryards in goodly flocks, especially where grass or other low vegetation was to be found, and there, as in other regions of the country, they displayed a partiality for the immediate vicinity of fences, or similar structures. On cool and drizzly days they sometimes collect in considerable assemblages as if to seek good cheer in large numbers. At Grass Creek, on such a day, in June, 1905, I counted forty-six of these sparrows perched on a barbed-wire fence.

The Lark Sparrow is imposed upon very frequently by that prince of vagabonds, the Cowbird. On June 28, 1905, I found a sparrow's nest on the east slope of a steep hill, and near an elm tree at its foot. The nest contained five eggs, three of which belonged to the owner of it, and the other two to Cowbirds! On July 8, I found that the nest had been abandoned, and that there was only one Lark Sparrow egg remaining therein, and none whatever belonging to the Cowbirds. What had removed the eggs that were missing and caused the sparrows to desert the remaining ones, I know not. There are many mysterious disappearances continually occurring to puzzle and sadden the student of nature.

The above mentioned nest was a very neat affair made of grass, lined with root-fibers, and placed in a shallow depression in the soil. A tuft of coarse grass bent over it from above; and another was growing on its lower, or downhill, side.

The song of the Lark Sparrow, which may be heard throughout the spring and summer, is highly pleasing. The bird usually arrives from the south the first week in May and becomes common immediately.

If Harris Sparrows (*Zonotrichia querula*) ever visited my place of residence at Medicine Root it was never my good fortune to meet with any of them. But at Lake Creek, in a flat and almost treeless region, three of them, two males and a female, stayed about my stable for two weeks or more in late April and early May, 1908. The ordinary call note of Harris Sparrow brings to mind the melancholy sound made by an unrolled hinge that supports a door or gate swinging to and fro in the wind. When these birds were perched on the fence-posts or buildings in company with a number of English Sparrows it was difficult to distinguish which birds were which unless one approached very near to them, as the head and throat markings of the two birds are somewhat similar.

Very seldom did the Lark Bunting (*Calamospiza melanocorys*) visit my dooryard; however, when riding over the prairies one is sure often to meet with these birds. In 1904 I saw two males on May 14, and a large flock, consisting of about equal numbers of the sexes, on May 19; from this latter date they were common. But marshland and meadows are their proper habitat, and to such places we must hie in order to find them in abundance. Along Lake Creek they appear when Maia, the goddess of the plains, first makes her magic influence felt, and they become common about May 11; hence their vernal hegira in 1904 was somewhat delayed. In the hill country where the Bobolink is seldom seen the Buntings are often called "Bobolinks," because of the similarity in the coloration of the breed-

ing plumage that obtains between the male Robert of Lincoln and the male Bunting. Every ranchman in the flat country can tell you how the "blackbird with the white wings," as he calls the Lark Bunting, soars and sings ecstatically above the spot where the female bird is concealed in the grass.

In the year 1904, on April 13, there came to the stacks a Bronzed Grackle (*Quiscalus quiscula cæneus*); on April 27 I saw a small flock of Brewer Blackbirds (*Euphagus cyanocephalus*) at the same place, and thence during the spring both kinds passed much time in the barnyard, often commingling in flocks. Unobserved by the birds, I often watched them from the stable while they devoured grains of oats that had shelled out upon the ground. Never is contentment more plainly expressed than in the actions of a flock of blackbirds upon their feeding-ground, and to contemplate them is good for the soul. The "cre-eak" of the "rusty hinge" is full of good cheer, as also is the "chuck" of the lesser bird.

I have whiled away much time in watching the courtship of the Brewer Blackbird. Once, while I was at work in the garden, several female blackbirds made their appearance, being soon joined by a number of males. These latter, each, for the most part, having selected his mate, proceeded to make love—ruffled their feathers and expanded their tails and wings, at the same time uttering a sound that partook equally of a rattle and a ring. Sometimes the females replied, but their antics and voices were far feebler than those of their lovers; apparently they were much more interested in searching for larvæ than in the doings of the males. As they walked about over the freshly turned earth, each favored one was closely attended by her suitor. Bachelor and maiden birds came and went, fancy free, but in every instance these had the good taste not to molest the love-makers. Thus it went on until I grew tired of watching them. He who has noted the vast amount of time and energy consumed by birds—and other animals—in their courtship must needs admit the reasonableness of the theory of sexual selection.

Comes the springtime with its hosts of flying insects, and darting from the fence posts in pursuit thereof are soon seen the remarkable tyrant flycatcher. About my Dakota home both the common Kingbird (*Tyrannus tyrannus*) and the Arkansas Flycatcher (*Tyrannus verticalis*) were often met with. In the spring of 1902 the Kingbird appeared on May 23, and became common immediately. In 1903, several of the birds were seen on May 15, and the species was in evidence from that date. In 1904, the first Kingbird as recorded by me was noted on May 8, but the birds, though one or more were seen nearly every day from the date of their first appearance, did not show their normal abundance until May 20. My meager records touching these birds seem to indicate that the Arkansas Flycatchers arrive in that region a few days in advance of the Kingbirds, that they are not so sensitive to cold as their congeners, and that some of them, at least, tarry with us much later in autumn than the common species.

The habits of these two tyrants, of necessity, are much the same, but their appearance is dissimilar. I used often to pass an old elm with a large dead limb at its summit, and many times I saw perched thereon, side by side, a single representative of either species. They often "hunt" together, and appear to be on good terms always, as though recognizing their kinship.

Because he gave them wire fences to serve as lines of perches wherefrom to sally out upon their insect prey, these birds no doubt owe much to man. One would think, too, that they would prefer the posts as points of observation, as these most resemble the dead limbs and snags of trees that nature first gave them for this purpose, but as a rule they perch upon the wires instead.

After cold and prolonged rains in summer when the insects on which they

feed are not flying well, I have noticed both these flycatchers winging their way round and round over meadows and garden patches in their efforts to stir up the wherewith for a meal. While thus engaged they remind me of the swallows that often skim about among them, though these, of course, are much more graceful in their gliding flight than are the flycatchers.

I stated that the two flycatchers are friendly to each other, but nevertheless there is sometimes a spirited rivalry between them. Once at Grass Creek, South Dakota, I saw a common Kingbird and an Arkansas Flycatcher contending for the possession of a large moth that was doing its utmost to escape them by a zigzag flight. Both birds would dash at the insect and then at each other. The Kingbird at length was successful in securing the quarry, and thereupon alighted upon a wire fence with his prey, while the other bird flew away. The victor was proceeding to pluck the wings off the unfortunate moth, when it got away, and fluttered down into some long grass. The bird hovered over the place where it had disappeared, uttering a piercing "peet, peet"; but becoming alarmed at an ill-timed movement on my part he gave up the search and flew to a clump of trees hard by.

When all was quiet, in the proper season, generally speaking, from mid-April to late in September or after, stragglers often being encountered much beyond the average autumn limit, sometimes the Mourning Doves came timidly into the yard. Their preference, however, is for the dusty trails and the old fields abandoned to waste and weeds by the Indians. At Grass Creek I found them nesting in large numbers throughout the month of June, 1905. None of the nests that I found were situated upon the ground.

The Horned Larks (probably at certain times including two or more subspecies or races) during snowstorms when the problem of existence for them must be complex, congregate where the ground has been swept bare by the wind in its eddying round buildings. At this time of the year the Sioux Indians sometimes shoot them with pointless arrows and use them for food, while in far off Utah the Utes catch them by means of horse-hair snares. Preceding storms or other marked meteorological changes, they are wont to gather together in much larger flocks than ordinarily, and upon such occasions their restless and excited manner of twittering and scurrying is certain to attract attention. In May and June the young birds, unable to fly well or at all, are frequently crushed by the feet of horses and cattle, or the wheels of vehicles. Once, in winter, I witnessed the attempts of a pair of hungry coyotes to capture Horned Larks by stalking them. But they were unsuccessful, as the birds were on their guard, as they must needs always be, and made short flights whenever the canines drew uncomfortably near.

The Yellow-billed Cuckoo (*Coccyzus americanus*) often arrives in those parts as early as May 22. Ever since I first came to know this bird in Illinois, many years ago, as the "rain-crow," he has greatly interested and delighted me. In 1905, it was on May 23 that I saw the first Cuckoo of the season at Grass Creek, South Dakota. He was flitting silently about among the trees that stood at the foot of a low bluff when first I spied him. Leaving him sitting on a willow branch, I hurried to the house, twenty rods distant or so, to procure my field-glasses. When I came back, there he sat on the selfsame branch and paid but little heed to my movements. I viewed him for some time, and as I approached a little too near, according to his view-point, he merely hopped to another perch a few feet away. There is something of Old World mystery, somewhat monkish and medieval, about this bird, with his sidling, shy behavior, his exclusive ways. I walked down the creek, forty rods or so, and returned in about a quarter of an hour. Still he sat there, lost in reverie, his back to the sun and wind. And thus I left him.

English Sparrows (*Passer domesticus*) in spite of their commonness, their rank hoodlumism, their ceaseless clamor, and their strenuous antipathy to the presence of more welcome birds—in their relation to the economy of nature afford a subject well worthy of study. During the winter of 1902-1903 there were none of these birds about my premises. In 1903 a flock suddenly appeared late in October, and spent the remainder of the fall and all winter with me. Often I met with some of the members of this flock along the creek among the trees, where their impudent chirps seemed strangely and strongly incongruous. When we reflect upon their prompt and confident manner of taking possession of new territory, as here illustrated, we can easily understand how it is that these birds, since the fifties, have been enabled to overrun our country so largely. We can see that although the fittest in nature must survive, yet the fittest of nature's plan are not always those that appeal to our sympathies as being the best. The bluebird is continually being driven from the neighborhood of our houses by the noisy and bellicose sparrows. Now, what being in the realm of nature, in a higher sense, is "fitter" to enjoy the best in life than is that emblem of innocence and purity, that "bit of blue sky," the bluebird? Yet the fittest of the biologist is the organism that is able to cope best with its surroundings; and where can we find a better example of such a being than is the English Sparrow? How and why, it has succeeded so well, is thus pointed out by Coues: "This species, of all birds, naturally attaches itself most closely to man, and easily modifies its habits to suit such artificial surroundings; this ready yielding to conditions of environment, and profiting by them, makes it one of the creatures best fitted to survive in the struggle for existence under whatever conditions man may afford or enforce; hence it wins in every competition with native birds, and in this country has as yet developed no counteracting influences to restore a disturbed balance of forces, nor any check whatever upon its limitless increase."

I do not recall ever having seen a House Wren (*Troglodytes aedon parkmani*) at my stamping ground on Medicine Root, but at Grass Creek they were very abundant. At the former station the number of large trees is not great, while at the latter place there are many good-sized willows and elms having numerous hollows and knot-holes, and perhaps it is for this reason that there are innumerable wrens at Grass Creek, but I do not know. They become common about the second week in May.

"Music hath charms" is a saying trite but true. The charm about the song of our Dakota wren, however, resides not altogether in the music of it. When the ditty falls upon our ears the associative faculties straightway bring up mental pictures of other scenes and sounds. In the wilds of Dakota, with Indians roaming here and there, with the Bad Lands blazing in the sun, and with a strange sky overhead, close your eyes and hearken to the singing of the wren. Immediately fond remembrance brings back the surroundings of your boyhood days in Illinois, the cool, moist groves of maples, and the little House Wren pausing to warble joyously during the intervals of its labor of collecting larvæ for the hungry brood.

Brown Thrashers (*Toxostoma rufum*) were more numerous at Grass Creek than at Medicine Root. During the few years throughout which I studied them in Dakota, they became common at any time from May 3 to May 17, and after mid-September they were seen no more. A pair of thrashers that had built their nest in a bush not far from the dwelling house used to visit my cord-wood pile for borers to feed to their nestlings. Once when I approached the nest, the mother bird, who was on the point of giving one of these larvæ to her young, swallowed the insect herself in order that she might the better scold me. I estimated that

the thrashers at Grass Creek were more numerous in 1906 than during the previous year.

The first occasion upon which I had the pleasure of observing the Snowflake (*Plectrophenax nivalis*) in that region was in the fall of 1903. I was standing on the summit of a lofty hill when on a cairn I saw the bird, for there was but one. I approached very near, and thus was enabled to study his coloration and general make-up, and to determine his kind. On my drawing too close, however, he would fly away with a "pur-r-r," but always came back to the self-same cairn.

In winter the Snowflakes fly in flocks before the traveler's horses as the Horned Larks do, except that in taking flight they "rise as one man." They seldom come to the vicinity of dwellings, but in February, 1904, I saw one lone bird of this species in my garden plot, where I had thrown a quantity of kitchen refuse on the snow. When the hens appeared the bird uttered a scolding note and flew to a post. I have no record of the comings and goings of the Snowflake.

In the middle of May—a time beloved of a myriad of birds—the Western Yellowthroat (*Geothlypis trichas occidentalis*) arrives in southwestern South Dakota. If your home is on a table-land, however, you may count upon seeing or hearing but little of this the most familiar of the warblers. But on Lake Creek, an indirect tributary of Big White River, the Yellowthroats were present by the hundreds. Here grow clumps and clumps of dwarf willows and bastard indigo, traveling over the miry meadows, or seeming to travel, for continuity suggests motion, and on their arrival at the brink of the creek approaching as near the water's edge as they can secure a foothold, or roothold, rather, and then extending their wand-like branches out over the surface of the stream as far as these will reach. Such places are a paradise for the yellowthroat. From the time of his arrival in the springtime, through all the summer, you can hear his joyous "witchety, witchety, witchety," from far and near. And he does not fear to leave the marshes, either. There are dozens of his kind among the weeds that flourish luxuriantly upon the flat meadows reclaimed by Mother Nature from ancient marsh-land. And in the miniature herbaceous forests about your very doors you will find the bird and his mate in pursuit of their insect quarry.

The Barn and the Cliff Swallows (*Hirundo erythrogastra* and *Petrochelidon lunifrons*, respectively), in regions where the Bad Land formations and the limestone bluffs occur, find sites in plenty that are suitable for nidification purposes. But in the marsh and sand-hill country the former are obliged to build their nests in sheds, and the latter to construct theirs under the eaves of buildings. At Lake Creek, despite all my efforts to prevent their doing so, the English Sparrows enlarged the openings to the cliff swallows' nests and evicted the rightful house-holders, after which they themselves took up their abode therein. Barn Swallows depart on September 26, or before, but as late as September 15, in 1906, I found in a nest within a shed, three young birds of this species that were just able to fly when I routed them therefrom. I saw no old birds about at the time, and what afterwards befell the young ones, I did not learn.

In summer, when one is traveling over the prairies, especially during a rain, barn swallows frequently circle about close to the horses in pursuit of the flies that accompany these animals, and on more than one occasion I have seen the birds dart after specks of flying mud that they mistook for insects on the wing. At a given date in spring or fall, a person may conclude that there are no swallows about, and then, when traveling over the hill-country, suddenly come upon a number of them circling round in some sequestered swale or valley. These birds seem to practise frequently this trick of going off by themselves into sunny nooks, and

hence it is not so very strange that we oftentimes hear of folk who believe that swallows hibernate in mud at the bottom of ponds, and that on pleasant days the sun warms them into life and renewed activity.

Only once was the Purple Martin seen by me in that country. This was on June 11, 1904, when a pair of these birds, accompanied by some Cliff Swallows that were always hanging around, stopped to rest for a while upon the clothesline in my dooryard at Medicine Root. To my regret, they moved on and were seen no more.

Other rare bird occurrences came to my notice on Pine Ridge reservation. I saw a male Crimson-headed Tanager (*Piranga ludoviciana*) near Grass Creek on June 3, 1905. Three Western Blue Grosbeaks (*Guiraca caerulea lazula*), all males, tarried about my station in the valley of that creek for several days late in May of the same year. In that vicinity, also, a White-winged Crossbill was seen on a single occasion the following winter. A flock of about twenty common Redpoll Linnets (*Acanthis linaria*) alighted on a tree at Medicine Root in February, 1904. They were most ridiculously tame, and did not take flight until I, whose marksmanship is certainly nothing to boast of, had approached so near as to be able to decapitate one of the birds with a bullet from a twenty-two caliber rifle. The linnets then flew away, uttering a note somewhat resembling that of the American Goldfinch.

Interesting though they are, cases of rare aves that are seen once or a few times in a particular region as mere stragglers, do not compare in importance with instances of the gradual increase in numbers of uncommon birds throughout a given territory. Take the Black-throated Bunting, or Dickcissel (*Spiza americana*), for example. This is a bird whose kind haunt every hedge-row in Illinois. When a boy I knew the bird well, and early learned his name through the medium of one of a set of picture-cards advertising a particular brand of saleratus! On one of these cards was the likeness of the dickcissel, reproduced from an illustration in some standard book on ornithology. But in his habitat in Illinois, he was not, I must admit, of especial interest to me. This no doubt was because he there appeared a fixed feature of the ordinary, unchangeable run of Nature's everyday affairs. In that district of Dakota where I so long sojourned, however, I saw the bird in a different character—as soon as I saw him there at all! For he exemplified the gradual advance of a species into territory aforesaid unoccupied by it.

The points where I was stationed in South Dakota were all on the Pine Ridge Indian reservation, a tract of country about one hundred miles long and sixty miles wide. During the almost three years, from October, 1901, to July, 1904, when I was located at Medicine Root Creek, I traveled about, as usual, over the reservation a great deal. Nevertheless, on no occasion throughout this period did I see, or hear of, a Black-throated Bunting. I left the reservation in July, 1904, and returned in April, 1905, taking up my abode on Grass Creek, about forty miles west of my former station. Here, on July 9, 1905, among some rose bushes in a branch of the main creek-valley, I saw a male Black-throated Bunting. This, the first of the species recorded by me up to that time, was also the only one seen that season. But the next summer, that of 1906, I saw, beginning June 13, a number of these birds on Wounded Knee creek, five or six miles from the spot where the solitary bunting of 1905 was found. In July, 1907, when I crossed Wounded Knee, there were some of the birds at the same place, and, I estimated, in increased numbers. I visited Medicine Root, also, when on the same trip, and not far from the mouth of that stream, on a level tract, I perceived a number of buntings. At Lake Creek, in 1907, on June 13—mark the date!—they suddenly appeared in considerable force, and became immediately common. The character of the bird-music

of that valley was thus abruptly changed, for amid the songs of the Meadowlarks, Red-wings, Lark Buntings, and Bobolinks, the "chip, chip, chee! chee! chee!" of the Black-throats was very noticeable. About two weeks after the above date I found a bunting's nest containing four eggs. The next year, also, they came to Lake Creek in June, and without any doubt, too, they must have returned to their haunts at the other points where I had found them on previous occasions. I think that these various records are sufficient to establish for the Black-throated Bunting, or Dickcissel, the right to be called a member of the avifauna of Pine Ridge reservation.

Were it not for the parasitic habits of the Cowbird (*Molothrus ater*: literally, "black vagabond," an appropriate name), one might doubtless take a liking to him. It is a well-known fact that the female cowbirds clandestinely deposit their eggs in the nests of other, and usually smaller, kinds of birds, and that in most instances the young Cowbirds who in due time arrive are well-cared for by the dupes of foster parents, generally to the neglect of their legitimate offspring. Cowbirds are often seen following grazing cattle and horses, and engaged in capturing the insects that are attracted to these animals, whence comes the common name of the bird. But though they accompany roving cattle and were formerly followers of the herds of buffaloes, as the "old timers" tell us, I have seen them follow the plow also. One spring, when a tract of virgin prairie was being broken up, a flock of about twenty Cowbirds, male and female, were on hand, and devoured great numbers of the grubs of May-beetles which abounded among the grass roots.

Where I first knew them in Illinois, northwest of the state center, the Cowbirds arrived early in April, as a rule. In Dakota they appeared from three to four weeks later than this, and departed some time before the middle of October. In the summers of 1907 and 1908, respectively, I observed that they were very abundant throughout the lowlands of Lake Creek and in adjacent regions.

Through sight or sound I was continually apprised of the proximity of many birds that seldom, or never, actually stopped on the grounds. In the evenings the Nighthawks (*Chordeiles virginianus*) sailed overhead, and their sharp and penetrating "spe-eak!" or, at times, their startling "boom!" could be heard on every hand. These birds attain their normal abundance in those parts from late in May to June 2. In 1904, they suddenly appeared in large numbers over many square miles of territory on May 21, and were frequent from that date. By mid-September they are off for the south.

Frequently, and especially in the evenings during falling or threatening weather, the shrill vociferations of the Killdeers (*Oxyechus vociferus*) resound on all sides. Indeed, when an area of low barometer is upon us, presaging storms, I believe that this plover can "feel it in his bones" as early and unmistakably as can the most rheumatic of old men. These attractive birds usually arrive late in March and are common on April 1. Thus it was, also, when I observed them in northeastern Utah in the spring of 1901.

Sometimes from the top of a pine a Chewink (*Pipilo maculatus arcticus*) gave utterance to his song, and when the wind was favorable the ditty could plainly be heard at the house. The Chewinks are here in numbers by May 6, or sooner, and it is only when the first third, or sometimes half, of October is gone, that they no longer people the groves and copses. I have seen stragglers at various times throughout the winter, however, and have come to the conclusion that when suitable shelter is at hand and the cold season not too severe, individual representatives of the species may occasionally remain during the entire year in many localities.

Within the dank woodland in the abrupt Medicine Root valley, and at no other

point where I resided in the Dakota country, the crescendo chant of the Oven-bird (*Seiurus aurocapillus*) was heard in spring and summer, and on two occasions I found the nest of this species.

When the night falls, and near the water the frogs sing and croak; when the slight breezes cause the pines to sigh; when, like ghouls, the coyotes yelp and wail amid the moon-kissed hills, whereon, exposed to sunshine and to rain, rest the rude coffins of the Sioux—then the sound that, above all others, arrests the attention, is the succession of curious utterances of the Long-tailed Chats (*Icteria virens longicauda*) in the undergrowth along the creek. Day and night for a considerable period after the middle of May, I could hear them, and when I first witnessed the actions of the male as he mounted high in the air, and then descended in a series of short, jerky flights, I realized the appropriateness of one of his common names—clown. And no mountebank ever was more gaily attired than he.

Red-headed Woodpeckers, while not remarkably abundant, were common enough among the trees near the water-courses from May 20 to the middle of September, and ever and anon, one or two could be seen working away at a post, or sitting on the ridge-board of a building. Or again, especially in the autumn, the young and old spent much time together engaged in flycatching. This, by the way, has become a very common trait of these birds. While I do not venture to prophesy, yet it may be said that from such small beginnings as this occasional recreation, marked changes in habit or structure often take their rise. Just at present it would be hard to believe that these birds might sometime be driven by natural selection to take regularly to this method of obtaining insect food. Still, should timber become exceedingly scarce, such a result might follow. Moreover I believe that at the present day, even, use and habit may be effecting slight changes in the Red-head's ways of life. The habit of flycatching, which is indulged in by all the species of *Melanerpes*, the genus to which this bird belongs, is no doubt inherited; and it would be strange indeed if continued use of the muscles called upon did not strengthen and modify them, as well as enable the bird to attain skill in their exercise; and these acquirements would be transmitted to the progeny. Then, should the kinds of trees become scarce wherefrom the woodpeckers are wont to search out their food, it is possible to believe that natural selection would preserve those birds that were best enabled to make a living by following the Kingbird's trade, and that in a few thousand generations it would be difficult indeed for the shade of Audubon, on beholding the modified descendant of *Melanerpes*, to tell what manner of bird was before him!

It is more than probable that the genus to which the common Flicker belongs was in remote times nearer than now to the typical woodpeckers, which lead a strictly arboreal life; and glancing from them to him we see the changes that have been wrought. Natural selection has operated upon the coloration of the Flicker's upper parts and rendered them protective to the owner in that they make him inconspicuous as he "hunts bugs" upon the ground, and directive to his companions as he rises therefrom in flight. Moreover, the same agency, assisted by use and wont, has effected other modifications. And why, in the light of these facts, should it be impossible to accept the view that the Red-head, also, may one day become altered in form and habit? But all such changes ultimately depend upon modifications in the environment; unless these occur the organism remains unaltered.

I think it was when severe storms swept over the plains, driving the birds to the vicinity of the buildings and haystacks that I felt for and with them most.

Here is an account, published by me in *Bird-Lore*, vol. VIII, of a May snowstorm and its effects upon the bird-life of the region where it occurred:

"The following notes relate to observations made at Grass Creek, Pine Ridge Reservation, South Dakota. On May 3, 1905, a cold rain prevailed all day, coming from the north. In the evening the rain-storm changed to a snow-storm, which continued all night, all the next day, and into the succeeding night. It was practically a blizzard. Western Lark Sparrows had arrived on May 1, and the storm rendered them very uncomfortable, to say the least. They huddled close to the south sides of the buildings, seeking shelter, and looking for food where the ground was bare. I threw out crumbs of bread to them, many of which they picked up. They slept under the door-steps and in a stable well sheltered by a hill, as well as in spaces among cord-wood in the wood-pile.

"The Horned Larks did not appear to mind the storm greatly, at first, but ultimately they began to flock with the Lark Sparrows. They did not, however, so far as I could ascertain, eat any of the crumbs that I had thrown out. But the cold had made these birds, as well as the sparrows, almost fearless of me.

"A White-rumped Shrike had killed a lark and thrown the body over a wire on the fence, thus enabling him to hold it easily. He was eating the decapitated carcass, and returned to it after I had frightened him off.

"When the snow had nearly disappeared I saw a large number of the sparrows and larks feeding together. A shrike flew over them, a few feet above the ground. The larks nearly all took alarm and flew away, but the sparrows fed on unconcernedly with the few larks that remained.

"The flocks of blackbirds that had previously been with us disappeared while the blizzard was in progress and did not return until it had cleared; but a single Bronzed Grackle, accompanied by a male cowbird, sought at times for food about our doors, during the storm.

"The morning after the storm had ended I saw a Say's Pewee at one of the windows of the house in chase of a fly that was on the outside; and afterwards I saw him trying to secure one or two of these insects that were on the glass within doors. When the storm was raging I had seen him upon the ground, searching for food as ordinary ground-dwellers do."

Say Pewees (*Sayornis sayus*), by the by, are often apt to receive their full measure of winter and rough weather, as they usually arrive in spring at the commencement of the third decade of April, or sometimes sooner, and individuals have been known to tarry until near the end of September.

At Lake Creek, Mallards (*Anas platyrhynchos*), Pintails (*Dafila acuta*), Canada Geese (*Branta canadensis*), and Snow Geese (*Chen hyperboreus*) often winged their way through the air overhead. Various sandpipers, during rainy spells, frequently ventured into the dooryard at that place; the most familiar of these were the Least (*Pisobia minutilla*) and the Baird Sandpiper (*Pisobia bairdi*), and the Upland "Plover" (*Bartramia longicauda*). Curlews (*Numenius americanus*), oftentimes whistled in the meadows. Sandhill Cranes (*Grus mexicana*) flushed from the swamps, floated in the sky like boys' kites, sometimes spending hours in the air before venturing to earth again. Indeed, some persecuted birds must of necessity believe that the earth is no place for them at all. The Great Blue Heron (*Ardea herodias*), too, was met with now and again, and the Bittern (*Botaurus lentiginosus*) could be heard "pumping in the fens." More than this, he frequently approached very close to the houses on the marsh. When winter reigned, the Short-eared Owl (*Asio flammeus*) and the Marsh Hawk (*Circus hudsonius*), a-mousing in the meadows, were an essential part of the snowy landscape.

Bobwhites (*Colinus virginianus*), introduced by man, were not infrequent at Medicine Root and Grass Creek, while at Lake Creek there was one small bevy, which, when alarmed, took refuge under a ranchman's dwelling house! In that region, too, if the statements of the settlers are correct, the Pinnated Grouse (*Tympanuchus americanus*) is increasing in numbers and forcing the Sharp-tailed Grouse (*Pedioecetes phasianellus*) out of the valley. In the highland country, however, where I dwelt also, only the latter species is to be found.

Downy (*Dryobates pubescens medianus*) and Hairy (*Dryobates villosus*) Woodpeckers were resident where trees abounded, but did not come to the buildings. Blue jays (*Cyanocitta cristata*) now becoming more numerous with each returning year, often stopped at the door. The Orchard (*Icterus spurius*) and the Bullock Orioles (*Icterus bullocki*) hung their pendent nests in the great cottonwoods that stand isolated on the meadows of Grass Creek; and at the house on the hill there and at Medicine Root the charming lay of the Black-headed Grosbeak (*Zamelodia melanocephala*) was wafted to the ear from the groves below.

Then, too, the notes of migrating Arctic Bluebirds (*Sialia currucoides*) greeted us from overhead, and numberless warblers and greenlets enlivened the thickets as, in their pilgrimages, they followed the north and south streams. But to enumerate all my bird acquaintances in that pleasant land, would, in itself, prove a task; therefore I will not prolong the list. Perhaps they came flying to the grounds—perhaps their notes were zephyr-borne from the trees below; in what way soever they made themselves known, these feathered companions were an unfailing source of pleasure and instruction.

A NESTING COLONY OF HEERMANN GULLS AND BREWSTER BOOBIES

By JOHN E. THAYER

WITH THREE PHOTOS

IN the spring of 1909 I sent my collector, Mr. Wilmot W. Brown, Jr., to the islands off the coast of southern Lower California in the hopes that he would find the nesting place of the Heermann Gull (*Larus heermanni*). After a long and weary search on the different islands, he found a large breeding colony on the southeastern end of the Island of Idelfonso. This was March 28. After waiting a few days, so that the birds would have full sets, he collected a very large series. With a few exceptions most of the nests contained two eggs; some twenty or thirty had three.

Mr. Brown says: "The nest in all cases was simply a well formed depression in the ground with no lining whatsoever. There must have been over fifteen thousand Heermann Gulls nesting on this island.

"On the southeastern end of the island, facing the sea, there is a large semi-circular shaped depression, which covers about five acres. It is quite level on the bottom and covered with gravel, with here and there blocks of lava scattered about. (See fig. 35.) It is well protected from the northwest wind, which prevails here in March and April. At the time I arrived on the island immense numbers of these gulls had congregated. They literally covered the ground. They were so